

A new subspecies of *Eucalyptus sideroxylon* A.Cunn. ex Woolls (Myrtaceae) from Queensland

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Summary

Bean, A.R. (2010). A new subspecies of *Eucalyptus sideroxylon* A.Cunn. ex Woolls (Myrtaceae) from Queensland. *Austrobaileya* 8(2): 139–141. A new subspecies, *Eucalyptus sideroxylon* subsp. *improcera* A.R.Bean, is described. It is diagnosed against the typical subspecies, and illustrations are provided. It is confined to a small area of the Barakula State Forest in southern Queensland.

Key Words: Myrtaceae, *Eucalyptus*, *Eucalyptus sideroxylon*, *Eucalyptus sideroxylon* subsp. *improcera*, taxonomy, Australia flora, Queensland flora, new subspecies

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Introduction

Eucalyptus sideroxylon A.Cunn. ex Woolls is a widespread species extending from northern Victoria to southern Queensland, occurring mostly on the western slopes of the Great Dividing Range. It is notable for its very hard, black ironbark on the trunk and larger branches, and for its often pink or red flowers.

An atypical and disjunct population of *Eucalyptus sideroxylon* in the Barakula State Forest (S.F.) near Chinchilla has been known since the 1970s. However, this population was not sampled by Bramwells & Whiffin (1984) in their study on morphometric variation in the species. It is here described at subspecific rank.

Materials and methods

The paper is based on examination of herbarium specimens at BRI, as well as observations made in the field. All measurements were made from dried material. Length and width dimensions are indicated as length × width followed by the measurement unit.

Taxonomy

Eucalyptus sideroxylon subsp. *improcera* A.R.Bean **subspecies nova** a subspecies typica differens alabastris longioribus

latioribus, operculo hypanthio duplo brevior, statura minore et foliis adultis latis 3.5–5-plo longioribus quam latioribus. **Typus:** Queensland. LEICHHARDT DISTRICT: Waaje Scientific Area, Barakula State Forest, NNW of Chinchilla, 25 March 2010, A.R.Bean 29467 (holo: BRI; iso: CANB, MEL, NSW, *distribuendi*).

Eucalyptus sideroxylon subsp. (Waaje N.B.Byrnes 3955); Bean *et al.* (2007).

Tree to 6 metres high. Bark predominantly rough (persistent bark extending more than two-thirds plant height). Black ironbark persistent on trunk and larger branches, very hard and impregnated with kino. Smaller branches smooth, grey to white. Juvenile leaves alternate, ovate, dull, concolorous, 71–100 × 24–43 mm, apex obtuse or apiculate. Adult branchlets not pruinose. Adult leaves concolorous, dull, lanceolate or ovate, 80–125 × 22–35 mm, 3.5–5 times longer than wide, greyish green, apex acute to attenuate, base acutely cuneate; secondary veins >5 mm apart, at 30–60 degrees to midvein; vein reticulation moderately dense or dense, sometimes obscure; oil glands appearing as isolated islands in the vein areoles. Petioles 12–21 mm long. Inflorescence with umbels borne singly in leaf axils or along leafless stems. Individual umbels 7(–9)-flowered. Peduncle erect or pendulous in bud, terete, 9–20 × 1–1.5 mm wide; pedicel 6–12 mm long; mature buds obovoid, 11–14 × 7.5–8

mm, not pruinose. Hypanthium obconical; operculum conical or patelliform, shorter than hypanthium, as wide as hypanthium; operculum scar absent. Stamens inflexed; anthers oblong, rigidly connected to filament, cells remaining separate. Staminodes present, with entire outer whorl sterile; flowers creamy-white. Style reaching underside of operculum in bud; stigma dilated (pin-head type). Fruiting peduncle erect or pendulous. Fruiting pedicel 6–12 mm long. Fruits cupular to ovoid-truncate, 9–11 × 9.5–11 mm, staminophore forming an annulus 1.5–2 mm wide, brown to black, eventually deciduous. Disc vertically or obliquely descending.

Valves 5 or 6, tips enclosed below level of rim. Fertile seeds ovoid or depressed ovoid, 1.2–1.5 mm long, dark brown to black, smooth, finely reticulate, not ribbed or ridged; hilum ventral. **Fig. 1.**

Additional specimens examined: Queensland. LEICHHARDT DISTRICT: Waaje Scientific Area, Barakula S.F., NNW of Chinchilla, Mar 2010, *Bean 29470* (BRI, MEL); Waaje, NW corner of Barakula S.F., May 1985, *Brooker 9010* (BRI, CANB); Barakula S.F., Waaje (near Quandong), Sep 1980, *Byrnes 3955* (BRI, CANB, NSW); Waaje wildflower area, Barakula S.F. 302, Jun 1994, *Grimshaw G769 & Turpin* (BRI, NSW); Waaje, NW corner of Barakula State Forest, N of Chinchilla, Jul 1995, *Young s.n.* (BRI [AQ582305]).

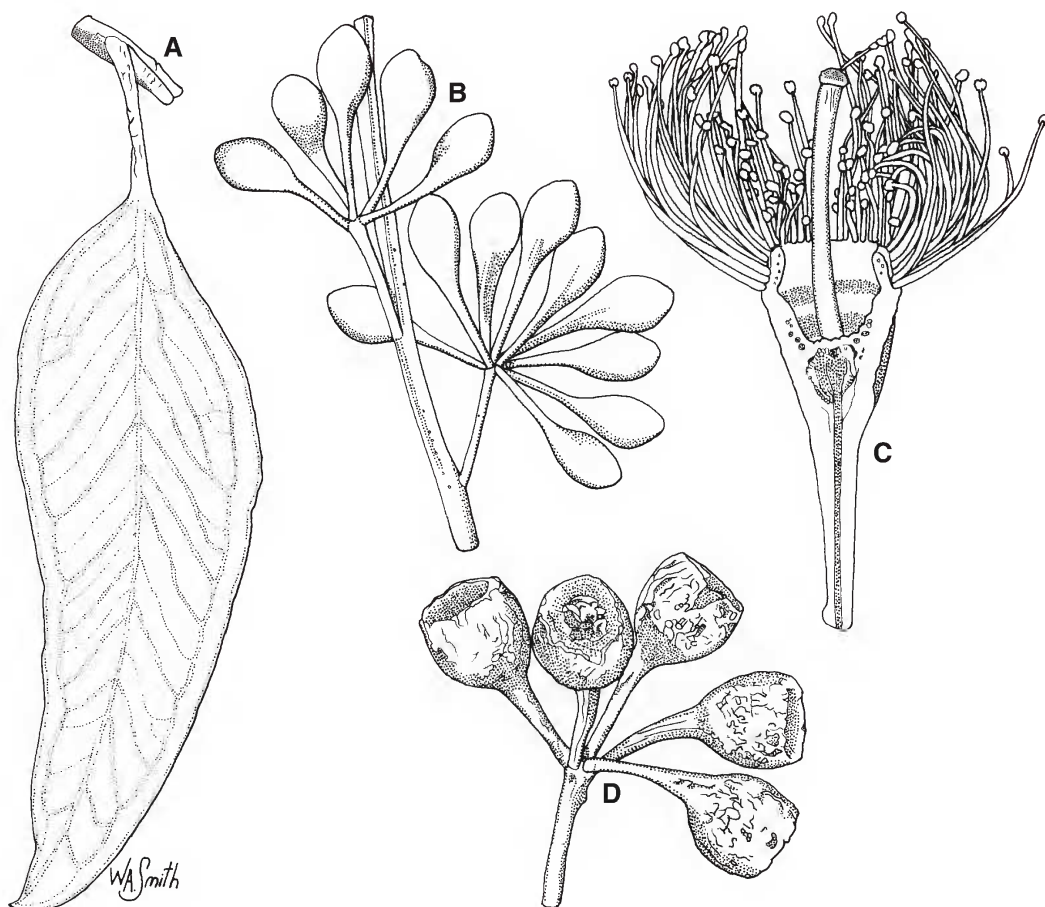


Fig. 1. *Eucalyptus sideroxylon* subsp. *improcera*. A. adult leaf × 1. B. inflorescences with mature flower buds × 1. C. longitudinal section of an open flower × 5. D. infructescence × 1.2. A,C,D from *Grimshaw G769 & Turpin* (BRI); B from *Brooker 9010* (BRI). Del. W.Smith.

Distribution and habitat: *Eucalyptus sideroxylon* subsp. *improcera* is known only from the Waaje area of Barakula State Forest, about 70 km NNW of Chinchilla. Here it is confined to a sandy lateritised plateau supporting heathland and shrubland with scattered emergent eucalypts. The associated eucalypts are *Eucalyptus panda* S.T.Blake, *E. pachycalyx* subsp. *waajensis* L.A.S.Johnson & K.D.Hill, *Corymbia trachyphloia* (F.Muell.) K.D.Hill & L.A.S.Johnson subsp. *trachyphloia* and *C. bloxsomei* (Maiden) K.D.Hill & L.A.S.Johnson. The understorey is dominated by *Melaleuca uncinata* R.Br., but includes threatened shrub species such as *Calytrix gurlmundensis* Craven and *Homoranthus decumbens* (Byrnes) Craven & S.R.Jones.

Phenology: Flowers are recorded from May to September. Fruits may be found all year round.

Notes: *Eucalyptus sideroxylon* subsp. *improcera* differs from *E. sideroxylon* subsp. *sideroxylon* as follows: the adult leaves are rather short and broad, 3.5–5 times longer than broad (4.5–9 times longer than broad for *E. sideroxylon* subsp. *sideroxylon*); the inflorescences are usually 7-flowered but occasionally 9-flowered (5–7-flowered for *E. sideroxylon* subsp. *sideroxylon*); the mature buds are 11–14 mm long and 7.5–8 mm wide in the dried state (7–11 mm long, 4–6.5 mm wide for *E. sideroxylon* subsp. *sideroxylon*); the operculum is only half as long as the hypanthium (slightly shorter or equal to hypanthium in *E. sideroxylon* subsp. *sideroxylon*). The flowers of the new subspecies are consistently white; most or all Queensland populations of *E. sideroxylon* subsp. *sideroxylon* include a high proportion of red- or pink-flowered individuals.

The new subspecies is invariably a small stunted tree, whereas *Eucalyptus sideroxylon* subsp. *sideroxylon* is a taller tree of good form. In the taller eucalypt woodlands found adjacent to the Waaje site, no trees of *E. sideroxylon* exist, and the common ironbark *E. fibrosa* subsp. *nubilis* Maiden & Blakely occurs instead. The nearest stand of *E. sideroxylon* subsp. *sideroxylon* is near Tara, more than 100 km away to the south.

The fruit size of the new subspecies, while very large, is equalled by some forms of the typical subspecies. The fruit size of *Eucalyptus sideroxylon* subsp. *improcera* overlaps strongly with that of *E. tricarpa* (L.A.S.Johnson) L.A.S.Johnson & K.D.Hill; however, *E. tricarpa* can be distinguished by the 3-flowered inflorescences, longer pedicels and narrower adult leaves.

Conservation status: The extant of occurrence and area of occupancy for *Eucalyptus sideroxylon* subsp. *improcera* is about 100 hectares. The number of mature plants is estimated to be fewer than 1000. There is no evidence of a decline in numbers for this taxon. Under the guidelines of the IUCN (IUCN 2001), this taxon is proposed for **Vulnerable** status based on the criterion D2.

Etymology: The subspecific epithet is from the Latin *improcerus* meaning short or undersized. This is given in reference to the size and height of the trees, compared to typical *Eucalyptus sideroxylon*.

Acknowledgements

I thank Will Smith for the illustration, and Peter Bostock for the Latin diagnosis.

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